IN THE CLAIMS

Please substitute the following listing of claims for the previous listing of claims.

1. (Currently amended) A substrate processing apparatus comprising:

a process chamber comprising a substrate support, gas inlet, gas energizer, gas exhaust, and a wall having a radiation permeable wall portion, the radiation permeable wall portion comprising a plurality of recesses ~~recess~~ sized to reduce the deposition of process residues therein.

A1

2. (Currently amended) An apparatus according to claim 1 further comprising a process monitoring system capable of monitoring a process that may be conducted in the process chamber through ~~the~~ a recess in the radiation permeable wall portion.

3. (Currently amended) An apparatus according to claim 1 wherein the ~~recess originates~~ recesses originate at an internal surface of the radiation permeable wall portion.

4. (Currently amended) An apparatus according to claim 3 wherein the ~~recess terminates at a~~ recesses terminate in the radiation permeable wall portion ~~of the wall~~.

5. (Currently amended) An apparatus according to claim 1 wherein the ~~recess comprises~~ recesses comprise an aspect ratio of at least about 0.25:1.

6. (Currently amended) An apparatus according to claim 5 wherein the ~~recess comprises~~ recesses comprise an aspect ratio of at least about 3:1.

7. (Currently amended) An apparatus according to claim 5 wherein the ~~recess comprises~~ recesses comprise an aspect ratio of less than about 12:1.

8. (Currently amended) An apparatus according to claim 1 wherein the ~~recess comprises~~ recesses comprise an opening size of from about 0.1 to about 50 mm.

9. (Currently amended) An apparatus according to claim 1 wherein the ~~recess comprises~~ recesses comprise a depth of from about 0.5 to about 500 mm.

10. (Currently amended) An apparatus according to claim 1 wherein the ~~recess comprises~~ recesses comprise a diameter of less than about 10 times a thickness of a plasma sheath that may be formed in the chamber.

A1 Cont

11. (Canceled)

~~12~~ 11. (Currently amended) An apparatus according to claim 1 wherein the radiation permeable wall portion comprises one or more of Al_2O_3, SiO_2, AlN, BN, Si, SiC, Si_3N_4, TiO_2, ZrO_2 and mixtures and compounds thereof.

~~13~~ 12. (Currently amended) An apparatus according to claim ~~12~~ 11 wherein the radiation permeable wall portion comprises quartz.

14. (Canceled)

~~15~~ 13. (Currently amended) An apparatus according to claim 1 wherein the wall further comprises a masking portion ~~having the recess therein~~.

16-17. (Withdrawn)

14
~~18.~~ (Currently amended) A substrate processing apparatus comprising:

(i) a chamber having a support, gas inlet, gas energizer, and exhaust, and a ~~wall~~ ceiling having an integral radiation permeable wall portion, the radiation permeable wall portion having a recess sized to reduce the deposition of process residues therein; ~~and~~

(ii) ~~means for~~ reducing the ~~formation of process residue on the wall~~,

whereby a substrate held on the support may be processed by process gas introduced by the gas inlet, energized by the gas energizer, and exhausted by the exhaust.

19. (Canceled)

15 14
~~20.~~ (Currently amended) An apparatus according to claim ~~18~~ 18 wherein the ~~means~~ recess controls an access of energized gas species to the radiation permeable wall portion.

A1 Cont

21. (Canceled)

16 14
~~22.~~ (Currently amended) An apparatus according to claim ~~18~~ 21 wherein the recesses comprise an aspect ratio of at least about 0.25:1.

17 14
~~23.~~ (Currently amended) An apparatus according to claim ~~18~~ further comprising a process monitoring system to monitor radiation passing through the radiation permeable wall portion.

24-29. (Withdrawn)

18
~~30.~~ (Original) A substrate processing apparatus comprising:

a process chamber comprising

a substrate support,

a gas inlet,

a gas energizer,

a gas exhaust, and

a wall comprising a radiation permeable wall portion, the radiation permeable wall portion having a plurality of recesses ~~a recess~~ originating at an internal surface of the radiation permeable wall portion, the ~~recess~~ recesses having an aspect ratio sized to reduce the deposition of process residues therein.

19 18
~~31.~~ (Currently amended) An apparatus according to claim ~~30~~ further comprising a ~~radiation permeable portion in the recess, and a~~ process monitoring system capable of monitoring a process that may be conducted in the chamber through the radiation permeable wall portion.

A1 cont

20 18
~~32.~~ (Currently amended) An apparatus according to claim ~~30~~ wherein the ~~recess comprises~~ recesses comprise an aspect ratio of at least about 0.25:1.

21 18
~~33.~~ (Currently amended) An apparatus according to claim ~~30~~ wherein the ~~recess comprises~~ recesses comprise a passageway inclined at an angle of less than about 90 degrees.

22 18
~~34.~~ (Currently amended) An apparatus according to claim ~~30~~ wherein the radiation permeable wall portion comprises one or more of Al_2O_3, SiO_2, AlN, BN, Si, SiC, Si_3N_4, TiO_2, ZrO_2 and mixtures and compounds thereof.

35. (Canceled)

23 18
~~36~~. (Currently amended) An apparatus according to claim ~~30~~ ~~35~~ wherein the recesses are arranged to pass therethrough radiation originating from the plasma or radiation reflected from different portions of the substrate.

37-50. (Withdrawn)

24
~~51~~. (Currently amended) A substrate processing apparatus comprising:

a process chamber comprising a substrate support, a gas inlet, a gas energizer, a gas exhaust, and a sidewall about the support, the sidewall having an integral radiation permeable wall portion, the radiation permeable wall portion comprising at least one recess sized to reduce the deposition of process residues therein.

25 24
~~52~~. (Original) An apparatus according to claim ~~51~~ further comprising a second recess in the sidewall.

A1 cont

26 24
~~53~~. (Original) An apparatus according to claim ~~51~~ wherein the recess is inclined relative to the sidewall.

27 26
~~54~~. (Original) An apparatus according to claim ~~53~~ wherein the recess is inclined from about 50 degrees to about 60 degrees relative to the sidewall.

28 24
~~55~~. (Currently amended) An apparatus according to claim ~~51~~ further comprising a process monitoring system capable of monitoring a process that may be conducted in the process chamber through the recess in the radiation permeable wall portion.

29 24
~~56~~. (Currently amended) An apparatus according to claim ~~51~~ wherein the recess originates at an internal surface of the radiation permeable wall portion ~~sidewall~~.

30 29
~~57.~~ (Currently amended) An apparatus according to claim ~~56~~ wherein the recess terminates ~~at a~~ in the radiation permeable wall portion of the sidewall.

31 24
~~58.~~ (Original) An apparatus according to claim ~~51~~ wherein the recess comprises an aspect ratio of at least about 0.25:1.

32 24
~~59.~~ (Original) An apparatus according to claim ~~51~~ wherein the recess comprises an opening size of from about 0.1 to about 50 mm.

33 24
~~60.~~ (Original) An apparatus according to claim ~~51~~ wherein the recess comprises a depth of from about 0.5 to about 500 mm.

34 24
~~61~~ (Currently amended) An apparatus according to claim ~~51~~ wherein the ~~sidewall~~ radiation permeable wall portion comprises a plurality of recesses.

A1 Cont

35 24
~~62.~~ (Original) An apparatus according to claim ~~51~~ wherein the sidewall comprises a plurality of recesses on opposing sides of the support.

36 24
~~63.~~ (Currently amended) An apparatus according to claim ~~51~~ wherein the sidewall further comprises a masking portion ~~having the recess therein~~.

37 24
~~64.~~ (Original) An apparatus according to claim ~~51~~ further comprising an electromagnetic field source adapted to maintain an electromagnetic field about the recess.

65-69. (Withdrawn)